

Cheyenne County

Estimated Economic Impact of Agriculture, Food, and Food Processing Sectors

10/3/14

10 agriculture, food, and food processing sectors were analyzed to determine their overall contribution to the Cheyenne County economy.¹

These 10 sectors have a total direct output of approximately \$173 million and support 600.3 jobs in Cheyenne County. Running the model for all 10 sectors simultaneously produces the following results:

Agriculture Contribution in Cheyenne Co						
Impact Type ²	Employment	% Employment	Total Value Added ³	% of Gross Regional Product ⁴	Output ⁵	% of Gross Regional Product
Direct Effect	600.3	34%	35,055,674.3	34%	172,506,152.1	170%
Indirect Effect	99.3	6%	9,034,180.6	9%	15,541,709.6	15%
Induced Effect	104.7	6%	7,263,526.1	7%	11,838,963.0	12%
Total Effect	804.3	46%	51,353,381.0	51%	199,886,824.7	197%

As shown in the above table, agriculture, food, and food processing supports 804.3 jobs, or 46% of the entire workforce in the county. These industries provide a total economic contribution of approximately \$200 million, roughly 197% of Gross Region Product (GRP). As noted below in the calculation of Gross Regional Product, imports and institutional sales are subtracted. Therefore, counties that import a relatively large amount of goods and services will have a reduced GRP which may lead to agricultural output being greater than GRP.

Another metric used to calculate the importance of sectors in an economy is their value added as a percentage of GRP. Total value added by the 10 agriculture, food, and food processing sectors is approximately \$51 million, or 51% of the GRP. This indicates that personal income, business income, and taxes generated by these sectors account for 51% of the total economy.

¹ Article on building a contribution analysis in IMPLAN that avoids double counting:

http://www.implan.com/index.php?option=com_content&view=article&id=660%3A660&catid=253%3AKB33&Itemid=70

² Direct, indirect, and induced effects sum together to estimate the total economic contribution in the state. **Direct effects** capture the contribution from agricultural and food products. **Indirect effects** capture the economic benefit from farms and agricultural businesses purchasing inputs from supporting industries within the state. **Induced effects** capture the benefits created when employees of farms, agricultural businesses, and the supporting industries spend their wages on goods and services within the state.

³ Value added = labor income + indirect business taxes + other property type income.

⁴ GRP = final demand of households + governments expenditures + capital + exports - imports - institutional sales.

⁵ Output = intermediate inputs + value added.

The following tables document the overall summary numbers of the model, top industries affected by employment and output, and a listing of all industries that were analyzed.

In the top ten by employment, Grain farming is the top employer in the agriculture industry with 431.4 employees. This table also shows the amount of jobs that are created by the agriculture industry in Cheyenne County.

Description	Total Employment	Total Output
Grain farming	431.4	81,692,920.9
Cattle ranching and farming	124.4	63,459,702.1
Wholesale trade businesses	25.7	4,673,756.7
Real estate establishments	22.4	2,948,833.7
Food services and drinking places	13.3	615,978.9
Civic, social, professional, and similar organizations	12.9	288,449.3
Monetary authorities and depository credit intermediation activities	12.1	3,909,102.8
Private hospitals	11.8	1,679,305.6
Farm machinery and equipment manufacturing	10.5	5,440,124.9
Other animal food manufacturing	9.3	13,290,020.9

The Grain farming industry directly contributes approximately \$82 million to Cheyenne County's economy. This table also shows how much revenue is generated in other industries by having a strong agriculture industry.

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Farm machinery and equipment manufacturing	10.5	5,440,124.9
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Monetary authorities and depository credit intermediation activities	12.1	3,909,102.8
All other crop farming	3.2	3,829,162.5
Imputed rental activity for owner-occupied dwellings	0.0	3,234,325.3
Real estate establishments	22.4	2,948,833.7
Animal (except poultry) slaughtering, rendering, and processing	6.1	1,817,182.9

Below is a summary of all agriculture data with employment levels and output level. These values can tell how many jobs are represented by each agriculture sector and the output they contributed to Cheyenne County's economy.

[illegible]

All 105 counties in Kansas have Implan models and agriculture contribution summary. These values do not factor in the retail environment of food sales. Food retail is important, but in order to provide the most accurate picture of what production agricultural and processing contributes to Kansas, the retail sector was omitted.